

Description

Radio-operated communication terminal

The invention relates to a radio-operated communication terminal which comprises at least two housing parts, which can move with respect to one another.

Communication terminals such as these are known, for example, as so-called "clamshell" appliances, in which two housing parts are connected to one another via a hinge such that they can rotate, or as so-called slider appliances, in which two housing parts can be moved with respect to one another. In this case, the housing parts of the known appliances are moved manually by the respective user.

The object of the present invention is to use the design configuration of these appliances for tactile outputting of events which occur in conjunction with games or signaling.

According to the invention, this object is achieved in that the housing parts can be moved by means of miniature motors.

The invention describes the extension of the functionality by making use of the design characteristics of mobile terminals, for example, in the "clamshell" and "slider" embodiments. This design is used for tactile outputting of events which occur in conjunction with games or for signaling.

Tactile outputting in mobile terminals increases the usefulness of the terminal.

One refinement of the invention is characterized in that the miniature motors are driven in such a manner that direct force feedback is provided via the miniature motors when the manual movement

of the housing parts is used to make an input during a games function.

So-called force-feedback components, for example, are thus possible for direct reaction for inputting during games.

Another refinement of the invention is characterized in that the miniature motors are driven in such a manner that incoming signaling data is output by means of a corresponding movement of one housing part.

When an incoming call arrives, a clamshell appliance, for example, can be opened automatically.

In the past, force-feedback elements have been used only for PC-based games, for example, in joysticks. The use of mechanical components for output purposes in mobile terminals is not known.

If the appliance design is supplemented at an appropriate point by actuators (miniature motors, etc.), this increases the functional scope in a simple manner. If the design features are already used for inputting, direct reaction in the sense of force feedback is possible.

Furthermore, the appliance can be locked for specific user groups. For example, locking of the keypad of a slider appliance would prevent direct dialing, although incoming calls could still be received.

The background of the invention is the use of the design configuration of the appliance, that is to say for example, in the case of clamshell appliances, to provide the capability for controlled influencing of the opening angle of the appliance, the extension and retraction of the keypad in the case of slider appliances. Further design options such as separate

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control elements which can be extended or unfolded are
feasible, for example, for games consoles.

In addition to the use of miniature motors in the joint of clamshell appliances or opening and closing slider appliances, other options, inter alia, exist

- mechanical locking by the use of miniature relays,
- use of actuators in games consoles, for example for unfolding additional "control wings" or for the use of the force-feedback functionality.